

NEXTREME  
9085



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Jose V. Chen  
Group Art Unit: 3637  
Application No.: 10/798,932  
Filed: March 11, 2004  
Applicant: Scott Arthur William Muirhead  
Title: THERMOFORMED PLATFORM

THIRD AMENDED APPEAL BRIEF PURSUANT  
TO 37 C.F.R. § 41.37

John M. Adams  
Price & Adams  
4135 Brownsville Road  
P.O. Box 98127  
Pittsburgh, PA 15227-0127

Phone: (412) 882-7170  
Fax: (412) 884-6650  
Email: *paip.law@verizon.net*

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Dear Sir:

Pursuant to the Notification of Non-Compliant Appeal Brief mailed March 17, 2009, Appellant Scott William Arthur Muirhead respectfully submits this amended appeal brief, which is due by April 17, 2009.<sup>1</sup>

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<sup>1</sup> The recent amendment to appellate brief format requirements under 37 C.F.R. § 41.37 do not apply because the effective date of these requirements is December 10, 2008, which is after the filing date of the instant appeal. See 73 F.R. 32938.

## **I. REAL PARTY IN INTEREST**

The real party in interest is appellant Nextreme, L.L.C., whose business address is 2282 University Drive, Suite 1, Lemont Furnace, Pennsylvania 15456.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no other prior or pending appeals, interferences, or judicial proceedings, which may be related to, directly affect or be directly affected by or have bearing on the Board's decision.

Applicant has taken the position that claim 19 of the instant application interferes with claim 14 of U.S. Patent No. 6,758,148 by Torrey et al. However, the examiner has not declared an interference between those claims due to *inter alia* the fact that claim 19 of the instant application has not been allowed.

### **III. STATUS OF CLAIMS**

Claims 1-27 are pending in the application. Claims 1-10 have been withdrawn pursuant to a restriction requirement. Claims 11-18 have been allowed.

The present appeal is directed to claims 19-27, which were finally rejected in an Office action dated June 3, 2008.

### **IV. STATUS OF AMENDMENTS**

No amendment to the claims was filed subsequent to the most recent final rejection.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention, as described in independent claim 19, is directed to a fire resistant pallet. The pallet includes a pallet assembly. (Pages 23-25, Paragraph Nos. 58-63, Fig. 3-5). The pallet also includes a fire resistant layer formed upon an exterior of said pallet assembly. (Pages 11-12, Paragraph No. 25).

The present invention, as described in dependent claim 20 separately argued pursuant to 37 C.F.R. 41.37(c)(1)(vii), is directed to a pallet. The pallet includes the pallet assembly and the fire resistant layer of claim 19. The pallet assembly is made of a

polyolefin resin. (Pages 32-33, Paragraph No. 81). The fire resistant layer is made of an intumescent polyolefin material. (Pages 31-32, Paragraph No. 80). The pallet assembly and fire resistant layer are co-extruded. *Id.*

The present invention, as described in dependent claim 22 separately argued pursuant to 37 C.F.R. 41.37(c)(1)(vii), is directed to a pallet. The pallet includes the pallet assembly and the fire resistant layer of claims 19-20. The pallet assembly is made of the polyolefin resin of claim 20. (Pages 32-33, Paragraph No. 81). The fire resistant layer is made of the intumescent polyolefin material of claim 20. (Pages 31-32, Paragraph No. 80). The pallet assembly and fire resistant layer are co-extruded, as in claim 20. *Id.* The pallet assembly also includes a pallet shell formed from a first shell half and a second shell half. (Pages 22-25, Paragraph Nos. 58-63). The pallet assembly also includes support structure disposed between the first shell half and the second shell half. *Id.*

The present invention, as described in dependent claim 23 separately argued pursuant to 37 C.F.R.

41.37(c)(1)(vii), is directed to a pallet. The pallet includes the pallet assembly and the fire resistant layer of claim 19. The fire resistant layer includes an intumescent polyolefin composition resistant to fire. (Pages 31-32, Paragraph No. 80). The intumescent polyolefin composition is co-extruded with at least a portion of the pallet assembly. *Id.*

The present invention, as described in independent claim 24, is directed to a fire resistant pallet. The pallet includes a first layer of moldable intumescent material. (Pages 31-32, Paragraph No. 80). The pallet also includes a second layer of moldable polyolefin material. (Pages 32-33, Paragraph No. 81). The first and second layers are co-extruded together prior to being molded into the fire resistant pallet. (Pages 31-32, Paragraph No. 80).

The present invention, as described in independent claim 26, is directed to a fire resistant pallet. The pallet includes a moldable mixture of intumescent materials comprising a polyethylene resin. (Pages 31-32, Paragraph No. 80).



## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1) The examiner's evaluation and characterization of the content of the Coleman Declaration and the Muirhead Declaration;

2) The rejection of claim 19 under 35 U.S.C. § 102(b) as being anticipated by Apps et al. (U.S. Patent No. 6,006,677);

3) The rejection of claim 19 under 35 U.S.C. § 102(b) as being anticipated by Gronnevik (U.S. Patent No. 5,845,588);

4) The rejection of claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Gronnevik (U.S. Patent No. 5,845,588); and

5) The rejection of claim 20, 21, and 23-27 under 35 U.S.C. § 103(a) as being unpatentable over Gronnevik in view of Ford et al. (U.S. Patent No. 6,228,914).

## **VII. ARGUMENT**

This brief addresses six issues. The first issue relates to the examiner's improper evaluation and characterization of the evidence set forth in the Coleman Declaration and the Muirhead Declaration. The second and third issues relate to the examiner's anticipation rejections of claim 19. The fourth issue

relates to the examiner's obviousness rejection of claim 22. The fifth issue relates to the examiner's obviousness rejection of claims 20, 21, and 23-27. The sixth issue relates to the examiner's failure to apply a uniform standard of obviousness in examining applications covering similar subject matter. Each issue is addressed below.

**A. The Examiner's Evaluation of the Coleman Declaration and the Muirhead Declaration Was Improper Because the Evidence Set Forth in the Declarations Was Mischaracterized.**

The examiner mischaracterized the evidence set forth in the Coleman Declaration and the Muirhead Declaration as being limited to evidence of "secondary considerations." The examiner also erroneously asserted that "there is no factual evidence of the stated opinions, such as testing results."

As an initial matter, it appears that the examiner has taken the position that the evidence set forth in the declarations must be evidence of "secondary considerations" because the declarations were submitted under 37 C.F.R. § 1.132. However, evidence submitted under 37 C.F.R. § 1.132 is not limited to evidence of secondary considerations, as follows:

When any claim of an application or a patent

under reexamination is rejected or objected to, any evidence submitted to traverse the rejection or objection on a basis not otherwise provided for must be by way of an oath or declaration under this section.

37 C.F.R. § 1.132. Accordingly, the mere fact that a declaration is filed under 37 C.F.R. § 1.132 does not expressly or implicitly indicate that the evidence is directed solely to evidence of secondary considerations.

On the merits, the next two subsections (i.e. Parts A.1. and A.2.) illustrate why the evidence set forth in the Coleman Declaration and the Muirhead Declaration is not limited to evidence of secondary considerations. The evidence set forth in the two declarations includes evidence relating to the examiner's erroneous assertions regarding inherency. The evidence set forth in the two declarations also includes evidence addressing the examiner's *prima facie* case of obviousness, as opposed to evidence relating to secondary considerations.

The third subsection (i.e. Part A.3.) addresses the examiner's assertion that the declarations do not contain "factual" evidence or test results. Both declarations include factual evidence. The Muirhead

Declaration also includes test results, which directly contradicts the Examiner's assertion. Accordingly, the following three subsections demonstrate that the examiner's characterization of the evidence in the declarations was fundamentally flawed.

**1. Reconsideration of the Anticipation Rejection of Claim 19 is Warranted Because Applicant is Entitled to a Fair Review of the Evidence That Addressed the Inherency Doctrine.**

Reconsideration of the anticipation rejection of claim 19 is warranted because Applicant is entitled to a fair review of the evidence that addressed the inherency doctrine. By mischaracterizing the evidence in the declarations, the examiner failed to properly consider the evidence of record that illustrates why claim 19 is not anticipated by the two references of record.

Applicant had the right to address the examiner's assertions regarding inherency. Once an examiner makes an inherency argument, an applicant has the right "to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product." MPEP § 2112. The examiner must provide a rationale or evidence tending to show

inherency. *Id.* The examiner never followed these procedures.

Both declarations include ample evidence that refutes the examiner's misplaced application of the inherency doctrine. See Coleman Dec. ¶¶ 12-22; Muirhead Dec. ¶¶ 5-11. Accordingly, the Board must remand the instant application back to the examiner for reconsideration of the rejection of claim 19 to give proper consideration of the evidence of record. Alternatively, the Board should reverse the rejection for the reasons set forth in Parts B-C set forth below.

**2. Reconsideration of Claims 20, 21, and 23-27 is Warranted Because Applicant is Entitled to a Fair Review of the Evidence That Addressed the Purported *Prima Facie* Case of Obviousness.**

Reconsideration of claims 20, 21, and 23-27 is warranted because Applicant is entitled to a fair review of the evidence that addressed the purported *prima facie* case of obviousness. Notwithstanding the examiner's erroneous assertions to the contrary, the Coleman Declaration actually includes evidence that addresses the *prima facie* case of obviousness, as opposed to secondary considerations of nonobviousness. Specifically, the Coleman Declaration includes two

paragraphs that illustrate why the examiner's asserted combination of the Gronnevik reference and the Ford et al. reference would be inoperable. See Coleman Dec. ¶¶ 23-24.

Similarly, the Muirhead Declaration includes evidence that demonstrates why the same combination is inoperable. See Muirhead Dec. ¶¶ 12-13. Applicant is entitled to a fair review of this evidence.

The MPEP expressly states that "the prior art reference (or references when combined) must teach or suggest all the claim limitations" to establish a *prima facie* case of obviousness. MPEP § 2142. The above-identified paragraphs from the Coleman Declaration and the Muirhead Declaration demonstrate that the two references cited by the examiner cannot be combined to produce an operable apparatus. Accordingly, the examiner's rejection of claims 20, 21, and 23-27 for obviousness must be remanded back to the examiner for further consideration. Alternatively, the examiner's rejection should be reversed for the reasons set forth in Part E below.

**3. Reconsideration of Claims 20-27 is Also Warranted Because the Evidence Set Forth in the Declarations Is Not Limited to Opinion Evidence.**

Reconsideration of claims 20-27 is also warranted because the evidence set forth in the declarations is not limited to opinion evidence. The evidence set forth in the Coleman Declaration includes factual evidence. Examples of factual evidence set forth in the Coleman Declaration include:

- "The [McGrath Reference] includes no disclosure or suggestion that all plastics provide fire resistance." [Coleman Dec. ¶ 13].
- "Indeed, the McGrath Reference states that the two engineering resins 'are considered candidates for fire safe thermoplastic materials.'" [Coleman Dec. ¶ 14].
- "The term 'fire safe' is used in the industry to denote a class of polymers that can meet the more demanding application areas of plastics. This includes commercial aircraft where approximately two or three minutes are allowed to evacuate a distressed airplane before the fire hazard from all sources is considered too great to survive. The plastic that is currently used for aircraft interiors is expensive (over \$ 20 per pound) and 'fire safe' cost effective replacements have been an important target for those doing plastics research for many years. Professor McGrath has been working in this area for many years as have others. So far no 'fire safe' candidates have replaced the existing plastic, so the search continues for a truly 'fire safe' plastic." [Coleman Dec. ¶ 15].

- "The Vinyl Institute Reference does not state that plastics, in general, inherently provide fire resistance." [Coleman Dec. ¶ 16].
- "The Gronnevik patent discloses a multi-layer structure, but does not disclose a multi-layer structure in which a fire resistant layer covers a polyolefin base material." [Coleman Dec. ¶ 21].

Clearly, the evidence set forth in the Coleman Declaration is not limited to opinion evidence.

Similarly, the evidence in the Muirhead Declaration includes factual evidence. An example of the factual evidence set forth in the Muirhead Declaration includes:

- "U.S. Patent No. 6,006,677 ('the Apps patent') does not include the phrase 'a fire resistant layer formed upon an exterior of the pallet assembly.' In fact, the Apps Patent does not even include the words 'fire', 'flame' or any equivalent." [Muirhead Dec. ¶ 5].

Accordingly, the evidence set forth in the Muirhead Declaration is not limited to opinion evidence.

In addition, an examination of the Muirhead Declaration further demonstrates that the examiner's assertion that "there is no factual evidence of the stated opinions, such as testing results" is demonstrably false. Paragraph 19 of the Muirhead Declaration describes test results that were obtained



from test samples. The test results are shown in the figure that was attached to the declarations. See Muirhead Dec. ¶ 1 (citing Figure 1).

Moreover, the examiner's assertions regarding "factual evidence" are irrelevant because the MPEP expressly states that "[a]lthough factual evidence is preferable to opinion testimony, such testimony is entitled to consideration and some weight so long as the opinion is not on the ultimate legal conclusion at issue." See MPEP § 716.01(c). Accordingly, the examiner cannot give the declarations short shrift merely by asserting that they are not based on "factual evidence." For these reasons, the application should be remanded back to the examiner for further consideration of the evidence set forth in the declarations. Alternatively, the examiner's obviousness rejection should be reversed for the reasons set forth in Parts D-E.

**B. Reversal of the Rejection of Claim 19 as Being Anticipated by Apps et al. Is Warranted Because Apps et al. Does Not Disclose or Suggest a Fire Resistant Layer Formed on the Outer Surface of a Pallet.**

Reversal of the rejection of claim 19 as being anticipated by Apps et al. is warranted because Apps et

al. does not disclose or suggest a fire resistant layer that is formed on the outer surface of a pallet. A rejection for anticipation under 35 U.S.C. § 102 requires that a single prior art reference discloses, "either explicitly or inherently", each limitation of a claim. *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (additional citations omitted). The evidence of record demonstrates that Apps et al. does not explicitly or inherently disclose all of the limitations of claim 19.

It is undisputed that Apps et al. does not explicitly disclose a fire resistant layer. Rather, Apps et al. discloses a plastic pallet having an anti-slip "layer" that is provided by scuffing the outer surface. The anti-slip "layer" is made from the same material as the rest of the bulk material. Accordingly, the rejection turns on whether Apps et al. inherently discloses a fire resistant layer.

The purported basis/reasoning for the inherency rejection is the examiner's assertion that all thermoplastic materials "provide a fire resistant layer." Office Action at 2. The Board of Patent Appeals and Interferences set forth a standard for evaluating an

examiner's assertion of the inherency doctrine, as follows:

[i]n relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

*Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The evidence of record demonstrates that the examiner has not met this standard.

The evidence of record establishes that the purported technical reasoning for the examiner's assertion of the inherency doctrine is flawed. Specifically, the Coleman Declaration demonstrates that the two references cited by the examiner in support of the assertion do not state what the examiner asserts they state. See Coleman Dec. ¶¶ 12-19.<sup>2</sup>

Indeed, the Coleman Declaration demonstrates that at least one of the references, the McGrath reference, directly contradicts the examiner's position. Coleman Dec. ¶ 14. This contradiction establishes that thermoplastic materials are not necessarily fire resistant materials.

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<sup>2</sup> The Muirhead Declaration also addresses the examiner's rejection of claim 19. See Muirhead Dec. ¶¶ 7-11.

In addition, the Coleman Declaration indicates that the examiner is not using the proper terminology in describing the content of the references. The Coleman Declaration indicates that the McGrath reference refers to "fire safe" polymers, not "fire resistant" plastics, and that the term "fire safe" has a very specific definition to a person of ordinary skill in the art. See Coleman Dec. ¶ 15.

The Coleman Declaration also indicates that the Vinyl Institute reference is of limited value because it relies upon ASTM standards, which include the following disclaimer:

"This standard should be used to measure and describe the fire response of materials, products, or assemblies to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire-hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire-hazard assessment or a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard or fire-risk of a particular end use."

Coleman Dec. ¶ 18 (citing Annual Book of ASTM Standards 2006, Vol. 8.01, D 2843 p. 714 ¶ 1.4). Accordingly, the evidence of record demonstrates that the inherency doctrine cannot be applied in the instant case because

the existence of a "fire resistant layer" does not necessarily flow from the teachings of the cited prior art.

Moreover, common sense dictates that all plastics are not inherently fire resistant. On June 19, 2008, two patent applications were published that expressly stated:

[f]urthermore, the problem arises in the case of plastic pallets that plastic is flammable such that, in the event of fire, toxic gases can develop.

U.S. Patent Publication No. 2008/0141912 A1 ¶ 3; U.S. Patent Publication No. 2008/0143514 A1 ¶ 3. Accordingly, the examiner's assertion that plastics are inherently fire resistant is baseless.

In addition, common sense dictates that the anti-slip "layer" in Apps et al. should have the same flammability properties as the bulk material because the anti-slip "layer" is made from the same material. Accordingly, Apps et al. does not expressly or inherently disclose a fire resistant layer, and the anticipation rejection of claim 19 must be reversed for the reasons set forth above.

**C. Reversal of the Rejection of Claim 19 as being Anticipated by Gronnevik Is Warranted Because Gronnevik Does Not Disclose or Suggest a Fire Resistant Layer Formed on the Outer Surface of a Pallet.**

Reversal of the rejection of claim 19 as being anticipated by Gronnevik is warranted because Gronnevik does not disclose or suggest a fire resistant layer formed on the outer surface of a pallet. Gronnevik discloses a multi-layer structure in which a polyolefin material is coated with an anti-slip layer of EVA or EBA. See column 5, lines 54-55.

It is undisputed that Gronnevik does not explicitly disclose a fire resistant layer. Instead, it appears that the the examiner relied upon the same flawed reasoning discussed in Part B above to assert that thermoplastic materials inherently "provide a fire resistant layer." Office action at 2. Accordingly, the analysis set forth in Part B applies to the Gronnevik rejection, as well.

The Coleman Declaration and the Muirhead Declaration include ample evidence to refute the examiner's flawed assertions regarding the purported fire resistance of thermoplastic materials. See Coleman Dec. ¶¶ 12-19; Muirhead Dec. ¶¶ 7-11. Accordingly, the rejection of

claim 19 as being anticipated by Gronnevik should be reversed for the same reasons as set forth in Part B above.

The Coleman Declaration also indicates that the problems that are addressed in Gronnevik (i.e. plastic pallets that have an outer surface with a low coefficient of friction) are unrelated to the inherent lack of fire resistance of plastic materials. See Coleman Dec. ¶ 22. Accordingly, the rejection of claim 19 as being anticipated by Gronnevik must be reversed for the reasons set forth above.

**D. Reversal of the Rejection of Claim 22 as Being Rendered Obvious by Gronnevik Is Warranted Because the Gronnevik Does Not Teach or Suggest All of the Claimed Elements.**

Reversal of the rejection of claim 22 as being rendered obvious by Gronnevik is warranted because Gronnevik does not teach or suggest all of the claimed elements. Specifically, Gronnevik does not disclose or suggest a fire resistant layer formed on the outer surface of a pallet. Gronnevik discloses a multi-layer structure in which a polyolefin material is coated with an anti-slip layer of EVA or EBA. See column 5, lines 54-55.

It is undisputed that Gronnevik does not explicitly disclose a fire resistant layer. However, the examiner appears to have relied upon the same flawed reasoning discussed in Part B above to assert that thermoplastic materials inherently "provide a fire resistant layer." Office action at 2. Accordingly, the analysis set forth in Part B applies to the Gronnevik rejection, as well.

Also, the Coleman Declaration and the Muirhead Declaration include ample evidence to refute the examiner's flawed assertions regarding the purported fire resistance of thermoplastic materials. See Coleman Dec. ¶¶ 12-19; Muirhead Dec. ¶¶ 7-11. Accordingly, the rejection of claim 22 as being rendered obvious by Gronnevik should be reversed because Gronnevik does not teach or suggest all of the elements of claim 22.

The Coleman Declaration also indicates that the problems that are addressed in Gronnevik (i.e. plastic pallets that have an outer surface with a low coefficient of friction) are unrelated to the inherent lack of fire resistance of plastic materials. See Coleman Dec. ¶ 22. Accordingly, the rejection of claim 22 as being rendered obvious by Gronnevik must be reversed for the reasons set forth above.



**E. Reversal of the Rejection of Claims 20, 21, and 23-27 as Being Rendered Obvious by Gronnevik and Ford et al. Is Warranted Because the Combined References Do Not Produce an Operable Combination.**

Reversal of the rejection of claims 20, 21, and 23-27 as being rendered obvious by Gronnevik and Ford et al. is warranted because the combined references do not produce an operable combination. The Federal Circuit has held that "a proposed modification [is] inappropriate for an obviousness inquiry when modification render[s] the prior art reference inoperable for its intended purpose." *In re Fritch*, 972 F.2d 1260, 1265-66 n. 12 (Fed. Cir. 1992); (citing *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)). Accordingly, Ford et al. and Gronnevik cannot be combined to render the above-identified claims obvious.

Ford et al. discloses an aqueous intumescent composition that is applied by conventional coating methods, such as spraying, dipping, drawing, and brushing to a structure after its formation. See Ford et al., Col. 12, lines 1-8. Ford et al. does not teach or suggest that the disclosed intumescent composition can be co-extruded with a polyolefin base material.

Indeed, the Coleman Declaration indicates that Gronnevik cannot be combined with Ford et al. because Ford et al.:

discloses an aqueous intumescent composition, which is not suitable for melt processing in a co-extrusion process. As a result, a person of ordinary skill in the art is unlikely to combine the Gronnevik patent with the Ford patent to produce a polyolefin patent having an intumescent layer through a co-extrusion process. The Ford coating is not formulated for compatibility with polymer melts; it is a coating that is formulated to bond to rough surface materials as described in the examples. The coating is applied to an existing surface. This Ford coating is a thermoset polymer that cannot be melt processed once it is heated to the curing temperature. Thus, it is totally unsuitable for extrusion or co-extrusion.

Coleman Dec. ¶ 24. Accordingly, any attempt to combine the teaching of Gronnevik with Ford et al. would result in an inoperable combination because the coating disclosed in Ford et al. cannot be melt processed.

Moreover, the use of an EVA layer in Gronnevik is a teaching away from the claimed inventions. It is well known that EVA is a "highly flammable material" that cannot be used in "structures where low flammability is required." U.S. Patent No. 7,037,576 at Col. 1, lines 62-67. Accordingly, a person of ordinary skill in the art is unlikely to combine Gronnevik and Ford et al. to produce the claimed invention. Consequently, the

rejection of claims 20, 21, and 23-27 under 35 U.S.C. § 103(a) must be reversed.

**F. Reversal of the Examiner's Rejections of Claims 19-27 Is Warranted Because the Examiner Has Been Applying an Arbitrary and Capricious Standard of Patentability to those Claims.**

Reversal of the examiner's rejections of claims 19-27 is warranted because the examiner has been applying an arbitrary and capricious standard of patentability to those claims. As noted above, claim 19 of the instant application interferes with claim 14 of U.S. Patent No. 6,758,148 by Torrey et al. Claim 14 of Torrey et al. was determined to be patentable by the same examiner. Accordingly, it is axiomatic that claim 19 of the instant application should have been allowed.

Similarly, claims 20-27 are narrower than claim 14 of Torrey et al. Accordingly, it is axiomatic that if claim 14 of Torrey et al. was allowed, claims 20-27 should have been allowed, as well.

**G. Conclusion**

For the reasons set forth above, the rejections of claims 19-27 must be remanded for reconsideration or reversed.

Respectfully submitted,



John M. Adams  
Attorney for Applicant

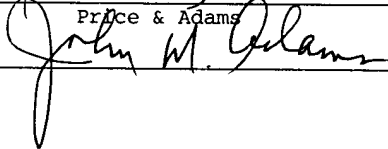
Price & Adams  
4135 Brownsville Road  
P.O. Box 98127  
Pittsburgh, PA 15227-0127

Phone: (412) 882-7170  
Fax: (412) 884-6650  
Email: [paip.law@verizon.net](mailto:paip.law@verizon.net)

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March 23, 2009

Price & Adams



March 23, 2009

## APPENDIX 1 - CLAIMS APPENDIX

Claim 1 (withdrawn): A method for improving the bond  
2 strength between at least two heat deformed  
thermoplastic sheets forming a unitary structure, the  
4 method comprising:

extruding a continuous web of thermoplastic having  
6 a top surface and a bottom surface;

conveying the continuous web of thermoplastic  
8 through a down-stream work station scuffing the top  
surface, wherein the top surface is characterized  
10 having increased surface area relative the bottom  
surface;

12 shearing the continuous web of thermoplastic  
providing a plurality of sheets having scuffed top  
14 surfaces;

thermoforming simultaneously at least a first sheet  
16 over a first mold and a second sheet over a second mold  
upon a machine frame; and

18 compressing a heated first sheet against a heated  
second sheet between the first mold and the second mold  
20 upon the machine frame to bond the scuffed top surface  
of the first sheet to the smooth surface of the second  
22 sheet.

Claim 2 (withdrawn): The method of claim 1 wherein  
2 three scuffed sheets are thermoformed simultaneously  
and compressed sequentially upon a machine frame to  
4 provide a unitary triple sheet structure.

6 Claim 3 (withdrawn): The method of claim 1 wherein the  
2 continuous web of thermoplastic is conveyed through at  
least one down-stream workstation whereby the top and  
4 bottom smooth surfaces of said continuous web are  
scuffed increasing the surface areas thereof.

6

Claim 4 (withdrawn): An article of the method of claim  
2 3 characterized in that the article is a thermoformed  
plastic pallet.

Claim 5 (withdrawn): An article made in accordance with  
2 the procedure comprising:

(a) extruding a continuous web of thermoplastic  
4 having a top surface and a bottom surface;

(b) conveying the continuous web of thermoplastic  
6 through a scuffing work station where after the top  
surface is characterized having increased surface area  
8 relative the bottom surface;

(c) shearing the continuous web of thermoplastic  
10 providing a plurality of sheets having scuffed top  
surfaces;

12 (d) heating a first sheet;

(e) forming the first sheet with a first mold;

14 (f) heating a second sheet;

(g) forming the second sheet with a second mold;

16 (h) aligning the first mold with the second mold so  
a scuffed top surface of the first sheet faces a bottom  
18 surface of the second sheet:

(i) moving the first mold toward the second mold;  
20 and

(j) joining together sections of the scuffed top  
22 surface of the first sheet with sections of the bottom  
surface of the second sheet to form a twin sheet  
24 subassembly.

Claim 6 (withdrawn): An article made in accordance with  
2 claim 5 wherein the thermoplastic is composed of a  
polyolefin resin.

Claim 7 (withdrawn): An article made in accordance with  
2 claim 5 wherein after step (j) the method further  
comprises:

- 4 (k) heating a third sheet;
- (l) forming the third sheet with a third mold;
- 6 (m) aligning the third mold with the twin sheet  
assembly;
- 8 (n) moving the twin sheet assembly toward the third  
mold; and,
- 10 (o) joining together sections of a scuffed top  
surface of the twin sheet assembly with sections of the  
12 bottom surface of the third sheet to form a triple  
sheet article.

Claim 8 (withdrawn): An article made in accordance with  
2 claim 5 wherein at least one exposed surface of the  
article is scuffed providing a high coefficient of  
4 friction skid resistant surface.

Claim 9 (withdrawn): An article made in accordance with  
2 claim 5 wherein after the step (e) a rigid member is  
positioned over the first sheet prior to the step (j)  
4 to form a rigidified twin sheet assembly.



Claim 10 (withdrawn): An article made in accordance  
2 with claim 7 wherein after the step (j) a rigid member  
is positioned over the twin sheet assembly prior to the  
4 step (o) to form a rigidified triple sheet article.

Claim 11 (allowed): An article resistant to fire and  
2 the heat of fire, the article comprising:

a first sheet of co-extruded thermoformable  
4 plastic, comprising a surface layer of an intumescent  
polyolefin composition resistant to fire and a  
6 substrate layer of a polyolefin resin, molded over a  
first mold to provide a first member;

8 a second sheet as in the first sheet molded over a  
second mold to provide a second member;

10 a third member of molded plastic composed of  
polyolefin resin comprising an array of upward  
12 extending ribs, an array of downward extending channels  
and between the ribs and channels hollow areas  
14 providing dead air space;

the third member being compressed between the first  
16 and second sheets to provide a rigid unitary structure  
wherein upper surfaces of the ribs bond to the

18 substrate layer of the first sheet and lower surfaces  
of the channels bond to the substrate layer of the  
20 second sheet;

the surface layers of the intumescent polyolefin  
22 compositions of the first and second sheets being  
exteriorly visible preventing the substrate layers from  
24 supporting a flame upon exposure to fire; and

the surface layers of the intumescent polyolefin  
26 compositions of the first and second sheets in  
combination with the dead air space insulating the  
28 third member, the insulated third member resisting the  
heat of the fire to remain rigid.

Claim 12 (allowed): An article as in claim 11 wherein  
2 the third member includes additives imparting high  
temperature strength.

Claim 13 (allowed): An article as in claim 11 wherein  
2 the article is a material handling apparatus.

Claim 14 (allowed): An article as in claim 11  
2 comprising a wireless communications device, the device  
being adapted to transmit an emergency signal to a

4 remote monitoring station when said article is exposed  
to fire or the heat of fire.

Claim 15 (allowed): A material handling apparatus  
2 comprising:

an electronic device, the electronic device  
4 comprising at least a wireless communicator interfacing  
with a remote station, thermographic instrumentation  
6 developed to monitor external temperature, and  
circuitry integrating the communicator to the  
8 instrumentation;

the thermographic instrumentation responding to  
10 variation in external temperature indicative of a fire  
by actuating circuitry, the circuitry triggering  
12 communicator to send an emergency signal to the remote  
station, the remote station thereby being alerted to  
14 heat indicative of fire.

Claim 16 (allowed): A material handling apparatus as in  
2 claim 15 wherein the electronic device has at least one  
supply of power, the at least one supply of power being  
4 derived from a solar battery positioned externally upon  
a surface of said material handling apparatus.

Claim 17 (allowed): A material handling apparatus as in  
2 claim 15 wherein the thermographic instrumentation  
includes a thermoscopic sensor, the sensor being  
4 exteriorly positioned to monitor temperature variation.

Claim 18 (allowed): A material handling apparatus as in  
2 claim 15 wherein the electronic device is mounted upon  
a plate for remote attachment to an external surface of  
4 the material handling apparatus exposed to fire and the  
heat of fire.

Claim 19 (rejected): A fire resistant pallet  
2 comprising:

a pallet assembly; and  
4 a fire resistant layer formed upon an exterior of  
said pallet assembly.

6

Claim 20 (rejected): The fire resistant pallet  
2 according to claim 19 wherein said pallet assembly is  
made of a polyolefin resin and wherein said fire  
4 resistant layer is made of an intumescent polyolefin  
material, said pallet assembly and said fire resistant  
6 layer being co-extruded.

Claim 21 (rejected): The fire resistant pallet  
2 according to claim 20 wherein said intumescent  
polyolefin material is disposed only on an exterior of  
4 said pallet assembly.

Claim 22 (rejected): The fire resistant pallet  
2 according to claim 20 wherein said pallet assembly  
comprises:

4 a pallet shell having a first shell half formed  
from a first member and a second shell half formed from  
6 a second member; and

a support structure disposed between and instantly  
8 fused to said first shell half and said second shell  
half to provide support to said pallet shell, said  
10 support structure extending across a length of at least  
one of said first shell.

Claim 23 (rejected): The fire resistant pallet  
2 according to claim 19 wherein said fire resistant layer  
comprises:

4 an intumescent polyolefin composition resistant to  
fire, said intumescent polyolefin composition being co-

6 extruded with at least a portion of said pallet  
assembly.

Claim 24 (rejected): A fire resistant pallet  
2 comprising:

at least a first layer of moldable intumescent  
4 material and a second layer of moldable polyolefin  
material, the first and second layers being co-extruded  
6 together prior to being molded into said fire resistant  
pallet.

Claim 25 (rejected): The fire resistant pallet of claim  
2 24 wherein the moldable intumescent material of the  
first layer contains a polyolefin material of the  
4 second layer.

Claim 26 (rejected): A fire resistant pallet  
2 comprising:

a moldable mixture of intumescent materials  
4 comprising a polyethylene resin.

Claim 27 (previously presented): The fire resistant  
2 pallet of claim 26 wherein the moldable mixture of  
intumescent materials in a sheet construction has a 4:1  
4 draw ratio to form a deep leg pocket.

**APPENDIX 2 - EVIDENCE APPENDIX**

1. Declaration of Scott A. W. Muirhead

Submitted October 23, 2007, entered into the record  
June 3, 2008.

2. Declaration of Ernest A. Coleman

Submitted June 19, 2007, entered into the record  
July 23, 2007.